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THE PRIMARY PROBLEM FOR AN EMPIRICAL THEOLOGY

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Common sense and science present a vast mass of facts, of brute actualities. In the light of common day this world of our multifarious experience is not at all "divine," just a world of men and things. But in the past many sensitive souls have found in this everyday world the tokens of a divine presence; in the stirring struggles for human rights they have conceived the conviction that "the voice of the people is the voice of God"; in studying the stars with all the machinery of mathematics and telescopes they have had to exclaim at last, "O God, I am reading thy thoughts after thee!" But those were less critical days, we think; men were then less conscious of the psychology of their own emotional reactions; is it possible for us to look squarely and steadily into this world of fact and discern in it God? In other words, for the empiricist the question of the existence of God is the question whether there is any intellectually honest way of accepting the emotional reactions of our whole nature at anything like their face value, if we find that the envisaged world of fact has *some* aspect which, in *some* of our moods, elicits from deep within us the religious response. For that, from many thoughtful people, in spite of all the concessions which must be made to the scientific or mechanistic interpretation of nature, the world does irresistibly elicit such religious response is unquestionably true.

This is not the first time that men have faced their world, denuded of meanings put upon it by religious tradition, and have tried to give an unbiased answer to the question of what, all in all, they find this world to be. Doubtless, therefore, it would be a salutary thing to review the outstanding examples, in previous times, of the very same sort of empirical[1] investigation which this crucial problem of religion forces upon us today. Not that we should be primarily interested in their results, so far as content goes, but it may well be that the very orientation of the task upon a broad and simple historical background will save us useless repetition of fruitless efforts and perchance point the direction in which the problem as a whole seems to tend. In the review which follows, of the way in which this primary problem of religion has presented itself to the empirical mind, I shall try to illustrate rather than demonstrate, and must trust that the statements I make dogmatically may commend themselves as interpretations which the generally accepted facts of the history of philosophy will easily bear. I do not claim to have discovered any novel facts, but only to have seen the old facts, after some little effort to see them in a broad and vital way, in a perspective that may clothe them with a new interest. If I can show a certain rhythm and a certain simplicity in the way thought has moved back and forth upon a rather definite pathway, it is not because I have begun with any Hegelian presuppositions, any assumptions as to the way in which reflection ought to move. Far from it. My sole desire has been to read the history of philosophy as one interested primarily in the psychology of the great movements, not in their minute details, but in their broad outlines. If the reader is suspicious of the simplicity of the parallels which I point out, I can only say that it is a simplicity that, so far as I am aware, I have discovered and not previously assumed.

To state the whole matter very briefly, I wish to trace in sharp and simple outlines the history of what I shall call the *mechanistic-mystical dilemma*. And by mysticism, in this connection, I mean a particular kind of mysticism, what perhaps I might name *classical mysticism* or *nature mysticism*. Let me proceed first of all to make the meaning of this term clear.

Elsewhere[2] I have defined religion as *a social attitude toward the non-human environment*. This definition was meant to include both nature religion and supra-nature religion. In the latter, where the religious environment is a more or less definitely conceived divine society, the social attitude toward this environment is psychologically simple. But in the case of nature religion the maintenance of a social attitude toward the non-human environment is not simple, for the spontaneous social responses of the human agent are continually checked and in a way frustrated by the fact that this same nature appears under other circumstances as anything but a *socius*. The emotional social attitudes are continually dogged by sophistication, and instinctive or spontaneous responses are pushed into personifications and sublimations of the original experience, wherein imaginative thought may roam unhampered by continuous reference to facts, or into abstractions, in which reflection seeks some sort of reconciliation between the physical and the quasi-personal complexion which the world of fact seems to bear. The easier thing to do, the popular thing, is to allow the imagination to transfer the social qualities of the world to some supramundane or extra-natural sphere. This, of course, has been accomplished in a very complete way only by the great religions, the gods of primitive peoples lingering in a dim borderland not far removed from the actual physical environment. But in those circumstances where a naïve imagination is checked by a critical intelligence, the mind is forced to maintain toward nature an attitude to some degree social. This attitude I shall call mysticism in the special sense referred to. It is, as I said above, continually checked and modified by the facts of unemotional experience, and thus two tendencies, two typical interpretations of the world, two mutually opposed and radically inconsistent sorts of response to nature, are found in a continually shifting balance. This is what I mean by the *mechanistic-mystical dilemma.*

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[1] Empiricism is of course always a relative. Though Descartes, for instance, was a "rationalist," he was empirically minded as compared with the Schoolmen. By "empirical" then I mean the open-minded investigative attitude rather than the traditionalist. To investigate without *any* assumptions is obviously impossible.

[2] See the *American Journal of Theology*, XX (January, 1916), 95 ff.

It is important that "mysticism," as used in this essay, should always be clearly understood as having the meaning specified above. Mysticism in this sense is particularly characteristic of the great reconstructive periods of thought. In all such situations, when the empirically minded religionist is thrown back upon the world of fact, it is the unavoidable expression of the religious disposition. There is, of course, another type of mysticism, the mysticism of the contemplative monk, the mysticism which is directed, not toward nature, but toward the supernatural, toward the divine beings of the "other" world. This is the mysticism of Thomas à Kempis. It is the mysticism of Christian orthodoxy. The first type, with which alone I shall deal in this essay, is the mysticism of Eckhart and Boehme. Its search is for the living or divine element in the natural world, whereas the other is a search for a more immediate experience of the divine reality of the supernatural or "other" world. While, of course, the two types will tend sometimes to fuse in the experience of individuals, they are logically distinct and will be regarded as such in this discussion.

The history of this mechanistic-mystical dilemma may for the purpose of this essay be divided into three main periods:

I. From Thales to Aristotle
II. From Bruno to Leibniz
III. From Rousseau to Bergson

There are several outstanding characteristics which these three periods have in common. Each one is ushered in by a period of disintegration. In the first case there is the discrediting of Olympianism; in the second, that of ecclesiastical supernaturalism; in the third, that of rationalism. Each is at first marked by an earlier stage of uncritical mysticism, and by a later stage of more critical mysticism, in which a special effort is made to reconcile the mechanistic and the mystical elements. The uncritical mysticism of the first period is the hylozoism of the Ionians; of the second, the "cosmical poetry" of Bruno and Boehme; of the third, the feeling-philosophy of Rousseau. The critical mysticism of the first period is the teleology of Aristotle; of the second, the monadology of Leibniz; of the third, the "creative evolution" of Bergson. In each period, urging thought on toward the final effort of critical mysticism, there are two phases of great importance, (1) an extreme formulation of the mechanistic tendency and (2) a characteristic dualism, the mechanistic and the mystical tendencies threatening to become entirely irreconcilable. The former of these, in the first period, is the atomism of Democritus; in the second, the Galilean mechanics; in the third, the "natural-selection" theory of Darwinism. The latter, in the first period, is Platonism; in the second, Cartesianism; in the third, Kantianism.

On the other hand, the three periods are significantly different in this, that whereas the dilemma of the first period is quite objective, in the second it is most characteristically objective-subjective, in the third subjective. In other words, if we compare the uncritical mysticism of the three periods, we see that in hylozoism the contrast and the attempted union are between the world-stuff and the world-life, both quite objectively conceived; that in the case of Bruno or Boehme the two elements whose contrast is emphasized while their fusion is attempted are the macrocosm and microcosm, nature and man; that in the case of Rousseau the contrast-fusion is between the inner and the outer, the true nature and the tangible form of human experience. This difference between the three periods is still more obvious if we compare the critical mysticisms: the contrast-fusion of Aristotle's system is matter-form; of Leibniz, the lower monads (physical) and the higher monads (spirit, mind); of Bergson, intelligence and intuition. The effort of each of these is, of course, to emphasize and explain the fusion, reducing the contrast to the level of mere appearance, of superficiality. It is, however, in the dualisms of the three periods that this point is most clearly to be seen, the point, namely, that the dilemma is in the first objective, in the second objective-subjective, in the third subjective. In Plato the gulf yawns between concrete thing or act and eternal type; in Descartes, between *res extensa* and *res cogitans;* in Kant, between pure reason and practical reason. The importance of this sequence, objective, objective-subjective, subjective, I shall refer to later in my discussion.

I. THE FIRST PERIOD: FROM THALES TO ARISTOTLE

1. *From Olympianism to hylozoism.*—I have suggested above (p. 236) the psychological principle which goes farthest to explain the rise of hylozoistic philosophy in Ionia. The historical facts which brought this principle into action were, very briefly, these: (*a*) The Olympian religion had, because of general prosperity and changed conditions of life, got out of touch with practical interests. Originally nature deities, the gods had, through a long, imaginative process, been elevated to the remote grandeur of Olympus. Furthermore, the ethical conceptions of the thoughtful

had radically outgrown the moral standards imbedded in the Olympian theology. Olympianism had simply become irrelevant to practical life. (*b*) All the stimulations of intellectual curiosity and of a practical interest in the processes of nature which influenced the Ionians of the sixth century, such as the contact with other civilizations and the many novel experiences of the colonists, drove thought back upon the world of fact, a world denuded by the development and the resultant irrelevance of Olympianism of its original (animistic) religious significance.

The result, psychologically, was inevitable. Many aspects of this world, now contemplated with some considerable degree of religiously unprejudiced curiosity, immediately elicited an interpretation of the social type. "All things," said Thales, "are full of gods," by which he meant that the world of the senses was somehow "divine," in some sense alive, however dead the gods of Olympus might be. And the mysterious power of the magnet was a suggestive illustration.[1] Many other aspects of the world, however, elicited, as in all everyday life, only the non-social, the mechanical, adjustments, the physical interpretation. And the Ionian thinker tried to conceive this world, physical yet somehow alive, in terms adequate to both aspects at once, without recourse to mythology. This mechanistic-mystical attitude is hylo-zoism (living-substance-ism).

2. *The dualistic tendency of the dilemma.*—But in hylo-zoism the strain upon the hyphen is great. Greek speculation at once, quite unconsciously, broke the problem up into that of the world-stuff and that of the world-process. Later, when metaphysics grew up afresh out of the soil of ethics, the dualism was first practical, the Socratic contrast between action and goal; then later the logical distinction between particular and universal; then finally the metaphysical distinction between concrete-temporal and the ideal-eternal, the content and the form, the material and the immaterial. Even as the social dispositions of primitive men had instinctively separated a living something from out the matrix of

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[1] The reader can easily get at the psychology of the hylozoists by playing for a few minutes with a good strong magnet, allowing himself to feel vividly the kinaesthetic sensations as the magnet pulls upon the bit of steel held between the fingers, and by giving just a little rein to the imagination.

common experience, the living something expressed in "manaism" or what not, only that finally it should be domiciled as the gods upon Olympus; so again the social disposition of the Athenian intellectual separated out the moral goal from the matrix of everyday actions, only to see it finally, via logic and metaphysics, settled as the Idea of the Good, in the heaven beyond the heavens, while the earth and the things that are earthy "participate," inexplicably enough, in the reality of which they are but shadows!

3. *The mechanistic tendency.*—The non-mystical temperament of the Greeks set the pace for all generations. A brief and simple outline of the conceptions which they formulated, in the attempt to understand the world of fact, will perhaps prove suggestive.

The greatest progress toward simplifying and so understanding nature was achieved, through many modifications, by the treatment of substance. (*a*) The beginning was made by Milesianism, the quest for the one stuff of which the many things are formed. In Thales and Anaximenes this is an empirical substance. In Anaximander it is conceived of as a transempirical substance. (*b*) The problem of substance soon is seen to be the problem of qualities. The riot of changing and mingling qualities is vastly simplified when Empedocles and Anaxagoras conceive of qualitatively distinct and changeless elements, whose mixture produces our sensuous world. (*c*) The greatest step was that of atomism, whereby qualitative differences are understood in terms of quantitative differences. There are no real changes in the elements. There are no qualitative differences, save those of size and shape. Combination, due to whirling motions and resultant vortices, accounts for all objects and events, while effluxes, due also to the motions, account for sense-impressions and thoughts. This is the acme of the Greek mechanization of nature.

The treatment of the world-process was more difficult. After the first great step is made of conceiving all changes as merely parts of a world-change, three questions concerning this all-inclusive process inevitably present themselves, namely, What? Why? How?

To the first question there are several answers:

a) Anaximander: Separation of opposites.

b) Anaximenes: Condensation and rarefaction.

c) Empedocles and Anaxagoras: Mixing of qualitatively simple elements.

d) Democritus: Mere motion of non-qualitative elements. Thus far the net result of the simplifying efforts is twofold: the world is basically merely quantitative; all change is basically motion.

To the second question, Why? a mechanistic answer seems impossible. It is a distinctly anthropopathic question. And so we find such conceptions as the generalization of Anaximander that the world-process is injustice requiring compensatory reaction, and that of Heraclitus that the world-strife is justice. But the thoroughgoing mechanist will attempt to make the question Why? meaningless when asked concerning the nature-process, by showing its meaninglessness when asked concerning human actions. Democritus' psychology is a theory of atoms-in-motion. But if the atomistic mind still persists in asking Why? concerning the vortices of which it is itself but a sample, the answer is, necessity, mathematical necessity.

How? is, as it were, midway between What? and Why? It seeks a more inward interpretation than What? It is less anthropopathic than Why? It is the question which becomes crucial only when, after the problem of substance and the problem of process have each received definitive answers, the problem of the relation between substance and process becomes dominant.

It should be noted that while Democritus in Abdera was content to discuss the What? of the world-substance and world-process, events in Athens had produced a shift of the philosophic center of gravity, and Socrates had initiated the search for the norm of action and of ethical judgment. As a result the whole metaphysical horizon is tinged with the problem of the normative; the substance-process enigma passes through the alembic of ethical experience and comes out as the content-form enigma. (The means by which the ethical problem is transformed into a metaphysical problem is the logical discussion of the relation between the particular and the universal.) Thus the How? of the world-process is a profounder question than the What? or the Why? inasmuch as the motive of the scientific development from Thales to Democritus is now imbued with the moral earnestness engendered in Socrates and Plato by the tragic social situation in Athenian life. It is deeper, also, because of the influence of mathematical insight, and because of the new rigor imposed upon thought by the development of logic.

This greater profundity may be most clearly seen by noting a relation which, though perhaps not due to a direct connection, is yet actually existent between the Platonic-Aristotelian statement of the world-problem and the Democritean solution. Democritus succeeded in stripping the elemental substance, the atom, of all qualities save form. For Aristotle the substance and the form are separable in thought. Indeed there seemed no way of allowing form to adhere inseparably to substance without being driven to atomistic materialism. So much at least the preceding three centuries had demonstrated. On the other hand, if separable, how could form and substance be conceived of as being actually related? Plato's failure to answer this question is notorious. The doctrine of participation was not satisfactory. The situation is relieved by recourse to mythology. The notion of the demiurge and of the world-soul is anthropopathism revived. If for Plato the word was "fundamentally mathematical," it was nevertheless ultimately not intelligible as such. Without the demiurge and the world-soul the mathematical world cannot be understood. Thus Plato was "in some things a reactionary."[1] Only, according to the thesis of this paper, being "reactionary" was simply being a mystic. Mechanism reacts inevitably against mysticism, and mysticism reacts as inevitably against mechanism. The lion and the lamb do not for long lie down together.

This, then, is the How-problem of the world-process in the peculiarly difficult form as it presented itself to Aristotle. How does matter take on form? How does the essence realize itself in the concrete particular reality? The doctrine of development is Aristotle's answer to the What-problem. But within this notion there lurks the subtler question of how the development takes place.

4. *Critical mysticism.*—The teleology which Plato had suggested in figurative or mythical form Aristotle embodied in his doctrine

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[1] Marvin, *History of European Philosophy*, p. 147.

of entelechy, the thought that cosmic processes are the realization of the essence in the phenomenon. The cue for this system was the development of growing organisms and the constructive activities of man. It is evident, however, that the teleology of growth and that of artistic construction are not at all the same, and since these two applications of the teleological principle run through the whole system sometimes quite confused, we have here, in the use of the latter at least, a further illustration of my thesis that the Greek mind was continually forced back upon anthropopathic or social conceptions to eke out its otherwise abstract and mechanical interpretations of reality. Although it is true that the application of this artistic principle is mostly by way of analogy, nevertheless it is just this inability of the greatest mind of the ancient period to dispense entirely with the personal or quasi-personal feeling in his explanation of cosmic processes that is so significant.

It is illuminating to note the several ways in which Aristotle seeks on the one hand to save his teleology from becoming a merely anthropopathic teleology, and on the other to preserve any real significance for the human comprehension of it. In the first place, vitalistic finalism and artistic finalism offset each other, the former getting its actual intelligibility by means of the artistic or constructive analogy, the latter being corrected in its inherent anthropopathic tendency by constant reference to the biological process. In the second place, the artistic finalism is broken up into four elements, namely, material cause, efficient cause, formal cause, and final cause. The last of these is shown to be the most important. Formal cause and efficient cause would inevitably tend toward anthropopathism, if indeed not toward anthropomorphism. Hence this danger is averted by stressing final cause. Again, the artistic analogy is rendered innocuous by the entelechial psychology, wherein, even as vegetative soul and animal soul are progressively *aufgehoben* in the rational soul, so the rational soul, which would be responsible for the existence of final cause (in the artistic analogy), is in turn *aufgehoben* by the cosmic progression toward pure form. And then, in the fourth place, by the subtle correlation of form and matter, the one being drawn on by the attraction of form, the other being effectively attractive only because of the longing of matter for form, by this subtle correlation the pure passivity of the perfection of God is yet dynamic, while the "longing" of matter is yet not a merely hylozoistic longing.

Thus does the subtle anthropoteleism of the culminating system of antiquity save itself from a cruder anthropopathism. But thus, also, does the mystical motif vindicate itself as an inevitable supplementation of the mechanistic motif. From first to last the systems of antiquity illustrate my contention that the mechanical and mystical interpretations of the world are complementary and at the same time mutually contradictory. Each tends to force the other from the field, yet each in itself is inadequate. The various conceptions which seek to combine the two are always in unstable equilibrium. They tend to break down either in one direction or in the other.

II. THE SECOND PERIOD: FROM BRUNO TO LEIBNIZ

1. *From ecclesiastical supernaturalism to Bruno's philosophy.*—It should be obvious that when the metaphysical dualism, beginning in the system of Plato, culminated in the system of Christianity, by which reality falls apart into two utterly distinct spheres, the temporal and the eternal, the sensuous and the supramundane, thought should find much less difficulty in apprehending it in the opposed categories of the mechanical and mystical attitudes. The problem is not now that of interpreting a world that seems inadequately explained by either mechanical or mystical concepts exclusively, but of explaining the possibility and method of contact between the two worlds which are regarded as metaphysically distinct. For the practical needs of Christianity this problem is readily enough solved by the conception of revelation and miracle, and in an age that was hard pressed by practical religious and moral rather than philosophical needs the mystical attitude attached itself inevitably to the supramundane, divine world, and the mechanical to the earthly, temporal world. Consequently the patristic and mediaeval periods are comparatively poor in illustrations of the thesis I am advancing. But when once the movement which began with Duns Scotus at the culmination of mediaeval thought, namely, the separation of philosophy from theology,

reached its consummation, and the thinker was free to look again with untrammeled curiosity at the world about him and to seek expressions for the responses that it evoked within him, this antagonism and necessary mutual supplementation of mechanical and mystical interpretations which I have noted in the Greek period become again remarkably apparent.

The psychology of this return to the world of fact from a preoccupation with a world of faith is hardly less simple than that of the Ionians. The growing irrelevance of the established view of life, a quickening of the intellect by great discoveries, the discovery of classical culture, of a wide, wide world, of a solar system—all this is a familiar story. And thrown back upon this world of fact, aided by the recently discovered neo-Platonic and neo-Pythagorean philosophies, Bruno and Boehme at once reacted mystically to this great world of fact. The transcendency of God is not so much denied as ignored. It is the immanence of God which the natural philosophy of the Renaissance is concerned with. The essence of God and that of the world are identified. He is the "inexhaustible infinite world-force; the *natura naturans* which in eternal change forms and 'unfolds' itself purposefully and in conformity with law into the *natura naturata*."[1] While the cosmology of Bruno bears a striking resemblance to that of Democritus and Epicurus, "a system of countless worlds, each of which . . . . grows from chaotic conditions to clear and definite formation and again yields to the destiny of dissolution," yet Bruno "regarded the plurality of solar systems not as a mechanical juxtaposition, but as an organic living whole, and regarded the process of the growth and decay of worlds as maintained by *the pulse-beat of the one divine all-life*."[2]

2. *The dualistic tendency.*—While it is obvious enough that in Bruno's *natura naturans* and *natura naturata* the passive and active participles are the counterpart of the hylo-zoism of the Ionians, the dilemma is, in this second period, not so characteristically objective as it is objective-subjective. This is suggested by the importance of the conception of macrocosm and microcosm, which played so important a part in the philosophy of the Renais-

[1] Windelband, *History of Philosophy*, p. 367.

[2] Italics are mine.

sance, and makes self-realization the key to the riddles of the universe. The self-consciousness of this period is one thing that makes it profoundly different from the classic period.

This aspect of the situation becomes clearly dominant in the work of Descartes, whose *cogito* is the starting-point of his philosophy, and whose division of reality into *res cogitans* and *res extensa* is the subjective-objective counterpart of the substance-process, or matter-form, dualism of the Greeks. (The latter produced a brood of ontological perplexities and puzzles, taxing to the limit the brain of an Aristotle; the former has produced a still greater horde of puzzles, the problems and perplexities of epistemology. Perhaps men will at last learn that the only way to answer the problems created by a dualism, whether ontological or epistemological, is to find the origin of the dualism and understand the conditions which produced it. Otherwise we are treating symptoms and not causes.)

In a word, the significance of Descartes' *res cogitans* for our present discussion is simply this: It provided an asylum for all those emotional and quasi-ethical values which the new science had just banished from the objective world. Mechanics had reduced the world to a mechanism, robbed of those vague quasi-personal qualities which it has always had except when, as I have said, they had been banished, by Olympianism, Platonism, or Christianity, to some "other" world. Cartesianism finds also an "other" world for them, but it is now not a supramundane world, but the world of man's inner experience, his subjective being. So it is that Descartes' dualism seems at first to afford relief from the mechanizing of the objective world.

3. *The mechanistic development.*—

a) In the objective sphere: Probably the most stimulating thing in nature is movement. The evolution of humanity has, physiologically considered, depended predominantly upon the development of the distant receptors, ears and eyes, especially eyes, whose function it is, in large part, to notify the organism of movement in its environment. Even in civilized man the vague perception of something moving, caught by the tail of the eye, often can stir the whole organism more violently than the most gorgeous panorama of motionless landscape or the most splendid prospect of massed stone and brick. An unexpected movement in some supposedly inanimate object can, in spite of us, banish, momentarily at least, our deepest sophistication. The human organism can soon make itself master of motionless objects. Movement is the incalculable element of our experience, in response to which our instinctive and emotional nature is always ready to assert itself. It was then, to put it mildly, an epoch-making event when man learned to apply the laws of the motionless to motion. That was, in a word, the inestimable feat of Galileo. He "created mechanics as the mathematical theory of motion." This achievement was pregnant with incalculable changes in man's attitude toward the forces of the world. Arithmetic and geometry had been long in preparation, but had been applicable, in any successful way, only to motionless objects, as motionless. When Kepler established the principle that all changes in the universe are to be considered primarily as motion, and Galileo immediately found how to apply to motion the principles of the motionless, the foundation was laid for that wonderful development known as modern science, the secret of which is, so far as our present discussion is concerned, the substitution of effective, non-emotional, mechanistic, purely intellectual conceptions and manipulations of natural objects and forces, for the spontaneous but ineffective, emotional, instinctive, anthropopathic attitudes.

b) In the subjective sphere: The inspiring success of the new mechanics and the need of a more exact science of social experience made it enevitable that the application of the same mechanical method should be attempted with reference to the subjective realm. Hobbes is the great innovator in this departure; if emotion is simply a kind of motion, a mechanics of morality would seem feasible enough. Locke's sensationalism, the "association" psychology and the whole rationalistic development in its application to mental and spiritual experience, is the result of this ambition to work out a mechanics of inner experience.

4. *Critical mysticism.*—The significance of Leibniz in this period is similar to that of Aristotle in the first. To the intellect a dualism between *res extensa* and *res cogitans* is as unsatisfactory

as that between matter and form; and to the spiritual interests of man an extreme and unmodified mechanistic view of life, whether objective or subjective, is even more unacceptable. The chief motive in the work of Leibniz was the desire to reduce this dualism and to restore the meaning, the purposefulness, of the world, which mechanism seemed to have destroyed.

> The reconciliation of the mechanical and teleological views of the world . . . . was the leading motive in the thought of Leibniz. He wished to get the mechanical explanation of nature . . . . carried through to its fullest extent, and at the same time he cast about for thoughts by the aid of which the purposeful living character of the universe might nevertheless remain comprehensible. The attempt must therefore be made . . . . to see whether the whole mechanical course of events could not be ultimately traced back to efficient causes, whose purposeful nature should afford an import and meaning to their working taken as a whole. The ultimate goal of this philosophy is to understand the mechanism of the cosmic processes as the means and phenomenal form by which the living content or import of the world realizes itself.[1]

How then does Leibniz reconcile mechanism and mysticism? In other words, how, in the first place, does he modify mechanism so as to relieve it of its cold and cheerless purposelessness, and how, in the second place, does he guard mysticism against its inherent tendency toward crude anthropopathism? Space forbids anything more than a compact and dogmatic statement.

In the first place, let us recall the net result of the achievements in the mechanistic tendency up to this time. Democritus had completed the Greek mechanization of substance by reducing all qualitative differences to purely quantitative differences, as in the doctrine of the atom, and had also reduced all changes to motion. But motion remains as an unexplained datum, inseparably connected with substance, for the atoms are eternally in motion. In the second period the Galilean mechanics has logically eliminated motion (the path of a cannon ball, for instance, being definable in a mathematical formula, consisting of "variables," which variables, when assigned any particular values, give, as their actual meaning, a point, a motionless point, in two- or three-dimensional space); so that, in the objective sphere, Descartes finds only *res extensa*, or substance whose nature is extension. Now Leibniz meets this entire situation by a startling innovation, which has linked his fame with modern physical theory. This innovation is the denial that the ultimate nature of substance is extension, and the affirmation that it is force. There is nothing, he claims, in extension which can explain force or motion, but force can explain both extension and motion. The method by which he arrived at this conclusion was in part an examination of the problem of inertia,[1] and in part (and this is no less significant, as recalling the subjective-objective point of view of this whole humanistic period) by an analysis of the logical judgment, the discovery that a true substance is "that which is the subject of all the various predicates, but is itself the predicate of no subject," and the assumption that the self is the only subject which meets this condition, and is therefore the type of true substance. "The essential feature of substance, as represented by the Ego, is its self-originating and self-determining nature. This dynamical quality . . . . [is] an *entelechy* . . . . 'a sufficiency which makes it the source of its internal activities.'"[2] This force, further, which is the ultimate nature of all substance, of every "monad," is *appétition*, a striving to fulfil its own potency by a progressively clear *représentation* of the nature of the whole universe.

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[1] Windelband, *op. cit.*, p. 421.

On the surface this would seem to be mysticism with a vengeance. The whole previous development seems quite reversed, for whereas Democritus, Galileo, and Descartes have reduced all objective reality to extension, Leibniz pushes it all onto the other horn of the dilemma, and reduces everything, bodies and motions alike, to *appétition*, which confessedly is akin, at least in its higher manifestations, to desire. How then does he safeguard his mysticism from becoming a sort of animistic atomism?

There are three factors in this part of his task: In the first place, all change is restricted to an inherent development within each monad, for it is explicitly denied that the monads influence each other. They "have no windows." What is implicit simply becomes explicit. What is potential becomes actual. Thus real change is, so to speak, denatured. In the second place, there is a

[1] Cf. Windelband, *op. cit.*, p. 421.

[2] See Hibben, *The Philosophy of the Enlightenment*, pp. 168, 169.

pervasive equivocation in the use of the term "representation." The fallacy of figure of speech could be traced in the suggestions of the phrase, "a *living mirror* of the universe."[1] Representing means sometimes symbolizing, sometimes perceiving, a curious fusion of the mathematical and the psychological. An algebraic equation represents a circle; the conscious purpose of the supreme monad represents the whole cosmic process. The concepts of the mathematician's consciousness and the mathematical truth of his consciousness are melted into an equivocal notion pregnant with a superficial success for the solution of the dilemma under discussion.[2] In the third place, the doctrine of "pre-established harmony" emerges from this mathematical type of representation. If $4x^2+9y^2=36$ represents an ellipse and $4x^2-9y^2=36$ represents a hyperbola, the change from plus to minus sign does not cause the change from ellipse to hyperbola; the two changes simply reveal an inherent and necessary co-ordination. In some such sense is there a "pre-established harmony" between thoughts of the soul and movements of the body, between the divine purpose and the events of history, between the "windowless" development of every monad and that of every other.[3] Thus real cause, in the dynamic sense, is, in large part, supplanted by cause in the mathematical sense, a "function of variables." In short, the mechanistic world of *res extensa* is replaced by a mystical world of *force-monads*. But this dynamic reality is rendered static, its harmony is pre-established, its "appetition" is congealed into formal logic. To be sure, in the last resort, the whole scheme resolves itself into and solves itself by an appeal to theology. But so did Plato fall back on mythology, making "participation" intelligible by invoking the "demiurge"—the philosophical *deus ex machina!*

To a friend Leibniz writes: "I flatter myself that I have discovered the harmony of the different systems, and have seen that both sides are right, provided they do not clash with one another; that in the phenomena of nature everything happens mechanically, and at the same time metaphysically."[1] "Provided they do not clash with one another!" What a *petitio principii!* This age-old puzzle is not solved by a little mathematics, and the philosopher is doomed to tread many more weary rounds. From Aristotle to Leibniz, from Leibniz to Bergson, the problem passes. But in the meantime Kant has, by his "Copernican revolution," enabled men to envisage the whole situation in an entirely new way. Perhaps in this third period we shall come nearer to the heart of the trouble in this mechanistic-mystical dilemma.

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[1] Italics mine. See *Monadology*, secs. 56, 83.

[2] Compare Windelband's statement in another connection, "Leibniz is here served a very good turn by the ambiguity in the word 'representation,'" *op. cit.*, p. 422, n. 6.

[3] Compare Hibben, *op. cit.*, pp. 179 ff.

III. THE THIRD PERIOD: FROM ROUSSEAU TO BERGSON

1. *The reaction from rationalism: Rousseau's philosophy of feeling.*—As the Greeks had reacted from Olympianism and discovered a hylo-zoistic world, the Renaissance had reacted from supernaturalism and discovered a self-and-nature reality, a humanistic-naturalistic world. But, as before, the strain upon the hyphen steadily increased. The microcosm and macrocosm of Bruno becomes the *res cogitans* and *res extensa* of Descartes. The simplifying work goes on, and Descartes' *res cogitans* becomes, for Locke, a *tabula rasa*, still further impoverished, "innate ideas" being denied. The Cartesian dualism was not so intolerable, because innate ideas provided some sort of connection, through the demonstration of the existence of God, by means of "occasionalisms," "pre-established harmonies," etc. But Locke was harder pressed to find the connection between the *tabula rasa* mind and the world. The embarrassment is relieved somewhat by Berkeley's startling innovation, but that is soon overthrown by Hume. There is a chasm now between even the surface and the body of the *tabula*, and the impressions on the once *rasa* surface give absolutely no clue to the existence of the reality for which they seem to stand. Real connections between God and the world, between self and nature, have utterly disappeared. The two partial dichotomies of Descartes have produced an absolutely complete trichotomy. Rationalism and deism have reduced reality to utter barrenness. Such is the result of the progressive impoverishment of the erstwhile meaningful human microcosm by the assiduous application to it of the ideal of mathematics and mechanics.

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[1] *Schriften*, II, 607. Quoted by Hibben, *op. cit.*, p. 185.

The great significance of Rousseau is, in a word, his effectual affirmation of the truth that there is much in the human microcosm besides a mathematical intellect. As Descartes had begun by shutting out the "animal spirits" from the confines of the soul (the real *res cogitans*), Rousseau reversed the whole matter by submerging the mind in the feelings.

To re-enrich the self was inevitably to close up the fatal dualisms of the past two centuries, and before long Herder was showing that the individual and the nation are mystically one, Schelling that the self and nature are mystically one, Schleiermacher that man and God are mystically one, Fichte that moral will and knowledge process are mystically one—in a word, the whole new age is rejoicing in the rediscovered unity of life. It finds its great intellectual statement in Hegel.

2. But in this rich and rapid development the basic difficulties of the mechanistic-mystical dilemma have been somewhat obscured. The passion for unity has outstripped Kant's cautious dualism of the pure reason and the practical reason. The novelty of his "Copernican revolution," his putting of the whole question on the new level of constructive idealism, quite overshadowed the enigma of how the same ego can find both necessity and freedom, irreconcilables as they are, in its experience. The world is mechanical, said Kant, because of the inexorable workings of the pure reason; life is mystical because of the no less inexorable workings of the practical reason; can these two expressions of the ego be reconciled? The *Critique of the Judgment* was an attempt to solve the old dilemma, stated now, not in objective terms, nor in objective-subjective terms, but in the strictly subjective terms of "pure reason" and "practical reason." But whatever force there was in the solution offered in the *Critique of the Judgment* was rendered obsolete on the advent of Darwinism.

3. But advancing science has forced upon religion once more the ancient perplexity. The significance of "natural selection" and "conservation of energy," about the middle of the century, and the whole subsequent development, particularly in psychology,

are too obvious to be more than mentioned. In reaction against materialism (mechanism) absolute idealism has been revived, with many modifications and refinements. (Logically, from the standpoint of this paper, absolute idealism belongs to the level of the second period, where the two terms are self and nature, ego and world. During the enlightenment the influence of mechanics enabled the mechanism of nature to swallow up the self, the laws of the physical world to reduce the ego to an unreality. In absolute idealism the influence of Berkeley and Kant enabled the mystical creativeness of the self to swallow up nature, the laws of the thinking ego to reduce the physical world to an unreality. For rationalism, the world-machine, including the cogs of "association," the levers of "pleasure-and-pain," is all, and, except as a piece of it, of a piece with it, the ego is nothing. For idealism the absolute ego is all, and the world of events and things and men, except as a piece of it, of a piece with it, is nothing, a "mere appearance.") For the rest, the religious spirit has fallen back on Kant's cleavage between the moral nature and the intellect. Such is the logic of the whole Ritschlian movement. We are shown a realm of values and a realm of existences. These are incommensurables; science and religion are mutually immune.

4. But now finally the task of Aristotle in the first, of Leibniz in the second, has been attempted in this third period by Bergson. In a word, he takes up the problem where Kant left it, and with the new concept of evolution strives to show the underlying unity between the intellect, the organ of mechanism, which reveals a world determined at every point, and intuition, the organ of mysticism, which reveals a world of spontaneity and freedom.

Of Bergson's treatment of the problem and of the lesson which the whole story of the problem teaches as to the future method of approach I hope to speak in my next paper.